

Ex 248
Lovane

*And you look
over this
Sam.*

April 23, 1975

Mr. Sam Raddi,
President,
Committee for Original Peoples
Entitlement,
Box 1368,
Inuvik, N.W.T.

Dear Mr. Raddi:

Sam

I am pleased to enclose a copy of a report entitled-
"Oil Exploration and the Bankslanders" prepared for
my Department by N.W. Simmons and T. W. Barry of the
Canadian Wildlife Service.

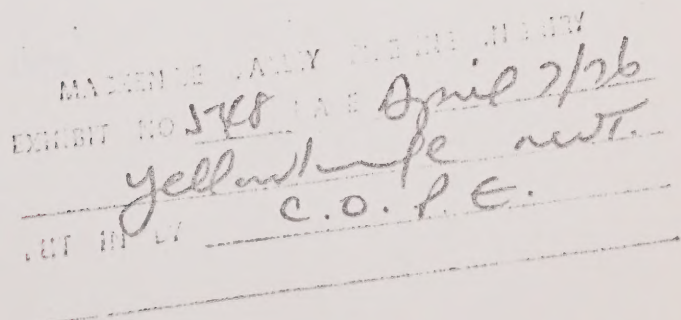
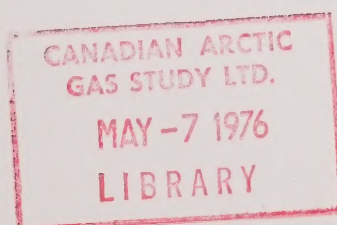
I have had this report under review for some time and
I can certainly endorse those sections dealing with
wildlife concerns. The section dealing with the social
effects of oil and gas exploration does not, however,
adequately reflect the policies, procedures and organ-
ization of the Department and on certain points includes
expressions of opinions that appear to be based on in-
complete or out-of-date information. Despite these
shortcomings, I feel the report is a significant con-
tribution to our knowledge of the effect of oil explo-
ration activities on the wildlife of Banks Island. I
trust that you will find it useful.

Yours sincerely,

Judd Buchanan

Attach.

Judd Buchanan.



OIL EXPLORATION AND THE
BANKSLANDERS

a lesson in national priorities

Norman M. Simmons
Canadian Wildlife Service
Fort Smith, N.W.T.
and
Thomas W. Barry
Canadian Wildlife Service
Edmonton, Alberta

March, 1973

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CONFIDENTIAL

OIL EXPLORATION AND THE BANKSLANDERS

Abstract

In October, 1970, the Minister of Indian and Northern Affairs asked the Canadian Wildlife Service to determine the effects of oil and gas exploration activities on the flora, fauna, and people of Banks Island. The C.W.S. gathered data on sociology of the Bankslanders and reviewed existing data on polar bear, seals, and migratory birds. The field research on arctic foxes, caribou, and muskoxen was conducted by Douglas Urquhart of the Northwest Territories Game Management Division, under the supervision of the Canadian Wildlife Service, between October, 1970, and October, 1972. Sufficient technical information is not available to fully evaluate the influences of man and machines on the soils, flora, and fauna of Banks Island. Preliminary data indicate that obvious direct disturbance to fauna by oil and gas exploration activities have not yet become pronounced. Several precautionary measures are recommended, however. It is recommended that studies of industrial impacts be vigorously pursued, and that means be found to bring all relevant information available to the attention of northern communities, to enable them to assess the severity of potential problems. A major recommendation is that the regulatory agency, the Northern Economic Development Branch, be restructured to enable it to play a more even-handed role in mediating between the wishes and concerns of the corporate developers and the traditional communities.

Introduction

Banks Island has been periodically occupied by native people since Thule Eskimo times. From the 1920's through the 1940's, trappers from Aklavik, Herschel Island, and Tuktoyaktuk trapped arctic foxes on the island during the winter, returning in their schooners to

the Mackenzie Delta once a year for supplies. In the early 1950's, some people from Aklavik settled permanently at Sachs Harbour, and government services were made available there soon afterwards.

Today the population of Sachs Harbour is approximately 100. Their economy is based mainly on arctic fox trapping, as well as hunting and fishing. The Bankslanders are self-reliant and proud of the fact that few of them require government welfare assistance (Barry and Simmons, 1970).

As early as 1958, geologists from the petroleum industry were predicting that oil would be found in the sedimentary basins of the Arctic, and it is likely that the interest of the petroleum industry was purposely stimulated by the Federal Government (Regulations respecting the administration and disposition of oil and gas belonging to Her Majesty in the right of Canada under all lands forming part of Canada but not within any province. 1961).

In anticipation of increased human activity on the Arctic Islands, the Canadian Wildlife Service conducted faunal surveys on Banks Island in 1954, 1955, 1958, and 1960, and thereafter requested the establishment of migratory bird sanctuaries there. Two sanctuaries were created by Order in Council in late 1961, well before the start of intensive oil exploration (Fig. 1).

In the summer of 1970, nearly a decade after the government issued

the first oil exploration permits, the Bankslanders became alarmed by the imminence of an oil and gas exploration rush on their island. They communicated to the Minister of Indian and Northern Affairs their fears about the effects of such exploration activities on the arctic fox and caribou populations. He in turn assured them that their interests would be looked after. On 2 October, 1970, the Minister issued a communique stating that accord had been reached with the Trappers Association of Banks Island and that oil and gas exploration activities were authorized to start immediately. He assured the trappers that "exploration would be permitted only if it could be carried out with no harmful side effects". Special regulations were drawn up to govern the activities of oil exploration parties, and Sachs Harbour residents were sent as observers with seismic crews to assure themselves that harm would indeed not come to their traplines.

Still dissatisfied, the Bankslanders suggested that the government compel the oil and gas industries to conduct their programs on uninhabited islands while scientists studied the influences of their activities on the flora and fauna. Then, if it could be shown that the damage caused by petroleum exploration and development was indeed insignificant, the Bankslanders would welcome the industry to their island (letter from Dr. P. Usher to the Chief, Northern Science Research Group, 19 October, 1970).

The Minister told the Bankslanders by telegram that an ecological study of Banks Island by 10 scientists would begin in the summer of 1971 (Usher, 1971, p. 82). Coincidentally the Canadian Wildlife Service was asked to provide an independent appraisal of the short and long range impact of oil and gas exploration activities in relation to the flora and fauna of the island as well as the impact on the social concerns of the Bankslanders (Appendix I).

Because they have the management responsibility for the resident wildlife on Banks Island, the Northwest Territories Game Management Division agreed to provide one of their biologists to conduct field studies under Canadian Wildlife Service supervision. Game Management Officer Douglas Urquhart was assigned that task, which he performed diligently under the most trying political and environmental conditions. The major portion of this report is the fruit of his efforts. The sections on land mammals were taken from his 1971 summary report (Urquhart, 1972). That report, submitted as Appendix II under separate binding, must be studied so that a better understanding of the situation on Banks Island can be obtained. Mr. Urquhart's final report covering the research through October, 1972, is not completed, but we have included his most recent observations in this document.

Dr. Ward Stevens, Dennis Surrendi and Vernon Hawley of the Canadian Wildlife Service, Dr. Peter Usher of the Northern Science Research Group, Department of Indian and Northern Affairs, and Douglas Urquhart,

reviewed and commented on this manuscript. Dr. Ian Stirling, also of the Canadian Wildlife Service, submitted useful comments on the report and provided the information in the section on polar bears and seals.

The Research Plan

The tempo of the oil and gas exploration activity frustrated the development of a properly designed research programme. Ideally, Mr. Urquhart should have had the opportunity to document the pre-exploration situation, but that was impossible with men and machinery thundering across the island in what, to him, were uncontrollable patterns. His research programme, therefore, was a compromise, and was often limited to recording the post-disturbance situation.

Mr. Urquhart's study began in October, 1970. His project was divided into five major phases:

1. Aerial transect surveys to plot the seasonal distribution and movements of caribou and muskoxen.
2. Aerial transect surveys to investigate the correlation between seismic lines and caribou movements.
3. Observations from the air and ground to determine the behaviour of undisturbed caribou and muskoxen and their behaviour when in proximity to exploration camps, men, mobile equipment including aircraft, and seismic lines.

Artificial test situations were created when opportunities for observation of animal reactions to disturbances did not present themselves. For example, caribou were herded toward seismic lines and helicopters were purposefully flown at various altitudes above muskoxen.

4. Dead-trapping combined with live-capture, tagging and release of arctic foxes to determine the composition and status of groups of foxes visiting exploration camps, and to delineate their movements.
5. Systematic aerial searches, followed by ground inspections, to locate fox den sites and estimate the ages and frequency of use of the dens.

It was planned that those investigations of muskoxen and caribou, combined with a thorough literature review, would result in basic information about their normal behaviour and movements and serve as a foundation for comparisons with the activities of disturbed animals. Unfortunately, a tagging and observation programme of sufficient magnitude to reveal the seasonal movements and behaviour patterns of arctic foxes would have required far more funds and man days than were available to the project.

Subtle effects of exploration activities, including those on flora and soils, might not be discernible for years after the disturbances occurred. Therefore, because of time and manpower limitations, we could only investigate in detail such gross potential disturbances

as bladed seismic lines, equipment noise, and direct contacts between men and animals.

The information on the migratory birds of Banks Island gathered during research studies over many years by Dr. T.W. Barry is the basis for our comments in the following section. Dr. Barry's long association with the people of Banks Island, as well as the fruits of our literature review and our lengthy interviews with Mr. Urquhart, Dr. Usher, and the residents of Sachs Harbour, enabled us to evaluate the influence of exploration activities on the social concerns of the Bankslanders.

Migratory Birds

The nesting, rearing, and moulting grounds of large numbers of snow geese, Pacific brants, whistling swans, king eiders, old squaw ducks, sandhill cranes and various shore birds and loons exist on Banks Island. Two such areas of major importance are protected under the Migratory Birds Treaty Act (Fig. 1).

Although the migratory bird resource on Banks Island is of major importance, its monetary value is difficult to establish. However, we feel that we can conservatively estimate the value of one snow goose to the North American economy at \$50 (Leopold, 1953). In June, 1971, there were about 200,000 snow geese on the two sanctuaries, consequently the Banks Island sanctuaries alone provided

habitat for at least \$10,000,000 worth of snow geese. We estimate that the other migratory birds found in the sanctuaries represent a value of about \$2,500,000.

Although the values cited above were of concern mainly to the sport hunters in the south, the presence of geese on the island also benefited the Bankslanders who take 600 to 1,000 snow geese annually for food. A more subtle benefit to those people is that birds in such large numbers provide food for arctic foxes. When the lemming population is at a low level, some foxes survive by preying on young waterfowl and eggs. In 1961, for example, one fox was seen to take more than 400 eggs from 112 brant nests.

The bird sanctuaries and exploration. From the very beginning of the exploration rush, the Canadian Wildlife Service controlled access by oil and gas exploration crews to the two migratory bird sanctuaries. Detailed annual surveys of nesting populations of birds, and a review of studies conducted elsewhere on the effects of man's activities on nesting and moulting bird populations, provided the data needed to protect birds on the sanctuaries. Stipulations were written into the permits that allowed machinery to operate within the bird sanctuaries.

It was known, for example, that disturbance by aircraft, boats, and land machinery increases the predation on goose nests far above normal because geese are especially afraid of aircraft, particularly

helicopters, whereas animals preying on geese are less disturbed. When the fox populations are high, predation on snow geese alone, without the stimulation by man's disturbance, may be as high as 60%. It is also known that the snow geese returned faithfully to the Big River and Egg River year after year to nest, and because they lay all of their eggs in one clutch, the nesting success could be significantly reduced by the destruction of nesting habitat.

The valley of the Thomsen River and Castel Bay (Sanctuary No. 2) is used as a moulting ground by non-breeding snow geese and brant. There the birds form into flocks of up to 1000 in late June and early July, at which time the flightless birds are highly vulnerable to the same disturbances that affect the nesting birds on the Big and Egg rivers.

Figure 1 illustrates the extend of seismic exploration activity that has been permitted within Sanctuary No. 1. Because of a firm, clear policy of scientifically based protection, exploration activities have taken place to date with no significant damage to the valuable migratory bird resource.

Arctic Fox

Macpherson (1969) and Usher (1970, Vols. 1 and 2) have documented the value of the arctic fox to the people of the arctic and, in particular, to the residents of Banks Island. The success of

Sachs Harbour as an independent and dynamic community is founded on the availability of arctic foxes on the island. An alteration in the value of fox trapping as a way of life on Banks Island would result in a change in the nature of the community of Sachs Harbour itself.

Changes in fox distribution. Urquhart reported that juvenile foxes follow seismic exploration camps, probably to feed on the refuse left by camp personnel. An individual fox may follow a mobile camp for up to several weeks.

Arctic foxes remain at the permanent staging sites that provide food and permanent shelter for longer than they do with the mobile camps. In January, 1970, 40 to 60 foxes were living at Johnson Point alone.

The abnormal concentration of arctic foxes at seismic exploration camps and staging sites is undesirable for at least two reasons. In the first place, the foxes become a nuisance to workers because they chew up electrical cables and other equipment. In addition, a rabies epidemic, such as the one that started among the foxes in the Sachs Harbour area in the fall of 1972, could easily accelerate in such a concentrated population.

So far, the "fox havens" have been established outside the trapping area of the Bankslanders (Fig. 2). To date these unnatural

concentrations of foxes have had no noticeable effect on fox trapping by the Eskimos.

Denning. The minimum density of fox dens on Banks Island is one per 10.2 square miles (Fig. 2). Only in Russia has a higher density of fox dens been recorded. In a more intensively surveyed area in the southwestern part of the island, there are 3.05 dens per square mile.

Mr. Urquhart was unable to determine whether the disturbance caused by exploration crews and their equipment caused den abandonment or other stress-related phenomena. Until it can be learned whether disturbance by seismic exploration activity causes significant stress, then such activity should be severely curtailed over much of the island during the spring denning and whelping season.

Recommendations. The improper disposal of garbage by people operating in the arctic comes up repeatedly as a source of trouble involving wild scavengers. Mr. Urquhart concluded that fewer arctic foxes would be attracted to seismic camps or staging areas if no food was available to them. He recommended that all crews working in the arctic should invest in proper waste disposal equipment or arrange to ship their garbage south for disposal using "back-haul" flights. Burial of un-burned garbage has not proven effective because of the problems caused by permafrost and shallow soil.

Prior to disposal, garbage should be stored in animal-proof containers designed to prevent the escape of odours that will attract animals. Frozen foods stored outside in cardboard cartons, and sewage flowing over the ground from mobile camps, are other sources of food that should be rendered inaccessible to foxes. Personnel should refrain from feeding the foxes and trying to tame them.

It is possible that seismic exploration disturbances may have an adverse effect on denning foxes, particularly when seismic grids are established in a fine-mesh pattern in a denning area. Therefore, a study of the effects of such a disturbance on denning foxes, possibly on an uninhabited island, should commence as soon as possible. The results of such a study would constitute a much-needed guide to organizations operating in the fox trapping areas of the Arctic.

Mr. Urquhart recommended that, until such a research project can be completed, no exploration programmes using explosives or machinery, including helicopters, be permitted after 30 April in major denning areas (Fig. 2).

Caribou

Caribou are a highly regarded staple food of the Bankslanders. In the past hunters have killed about 220 a year, the meat from which provided about 30 per cent of their sustenance (Usher, 1970, Vol. 2).

Thus far, the Bankslanders have expressed only mild concern that oil exploration activities may adversely affect the caribou population. Studies of the influence of man-created disturbances on caribou are underway in northern Alaska and in northwestern Canada, but the results have not yet been published.

Reactions to mobile camps and staging sites. Doug Urquhart found that caribou did not appear to be seriously disturbed by the presence of mobile or permanent camps, men, or equipment, at least during the fall when most of his observations were made. Disturbances during other seasons may be significantly detrimental to caribou, but preliminary information from Alaska indicated that caribou were generally unperturbed by the continuous presence of men and machinery. Urquhart observed that undulating terrain sharply reduced the sphere of influence of man-created disturbance, and that this fact should be considered when planning the establishment of fixed bases of operation.

Reactions to seismic lines. New seismic lines were found to alter the movements of caribou on Banks Island during the winter. When caribou encountered a line, they frequently walked parallel to it before crossing it or turning away. The influence of the lines apparently declined with their age as snow drifted over them. Usually within two or three weeks after vehicular traffic ceased on a line, the line was no longer an obstruction to normal caribou movements. In any case, it was Mr. Urquhart's opinion that the

direct effects of the seismic lines on the well being of the caribou were temporary and not of a serious nature.

Seasonal movements of caribou in relation to seismic exploration activities. Figures 3 through 9 illustrate the seasonal distribution and general routes of movement of caribou as well as the areas in which oil exploration activities have taken place. So far, oil exploration projects have not begun before 15 October and since such activities must be terminated by 15 April, migrating and calving caribou have not been noticeably disturbed by such programmes.

Recommendations. In areas where drifting creates large snowbanks along seismic lines, the normal movements of caribou are interfered with. Therefore efforts should be made to reduce the height of the snow banks on either side of the cleared routes. This can be done simply by driving a tracked vehicle along the banks.

In large areas of the island, the period during which the oil exploration programmes are presently allowed to proceed cannot be lengthened without the risk of detrimental disturbance to caribou during calving (June), migrating (May, September, October), or merely surviving on their critical winter ranges. Those areas are outlined in Fig. 10. All activities, including the construction of roads and pipelines on the island, should be designed to avoid disturbing the caribou on those critical areas during calving and migration seasons and on winter ranges. The activities of aircraft

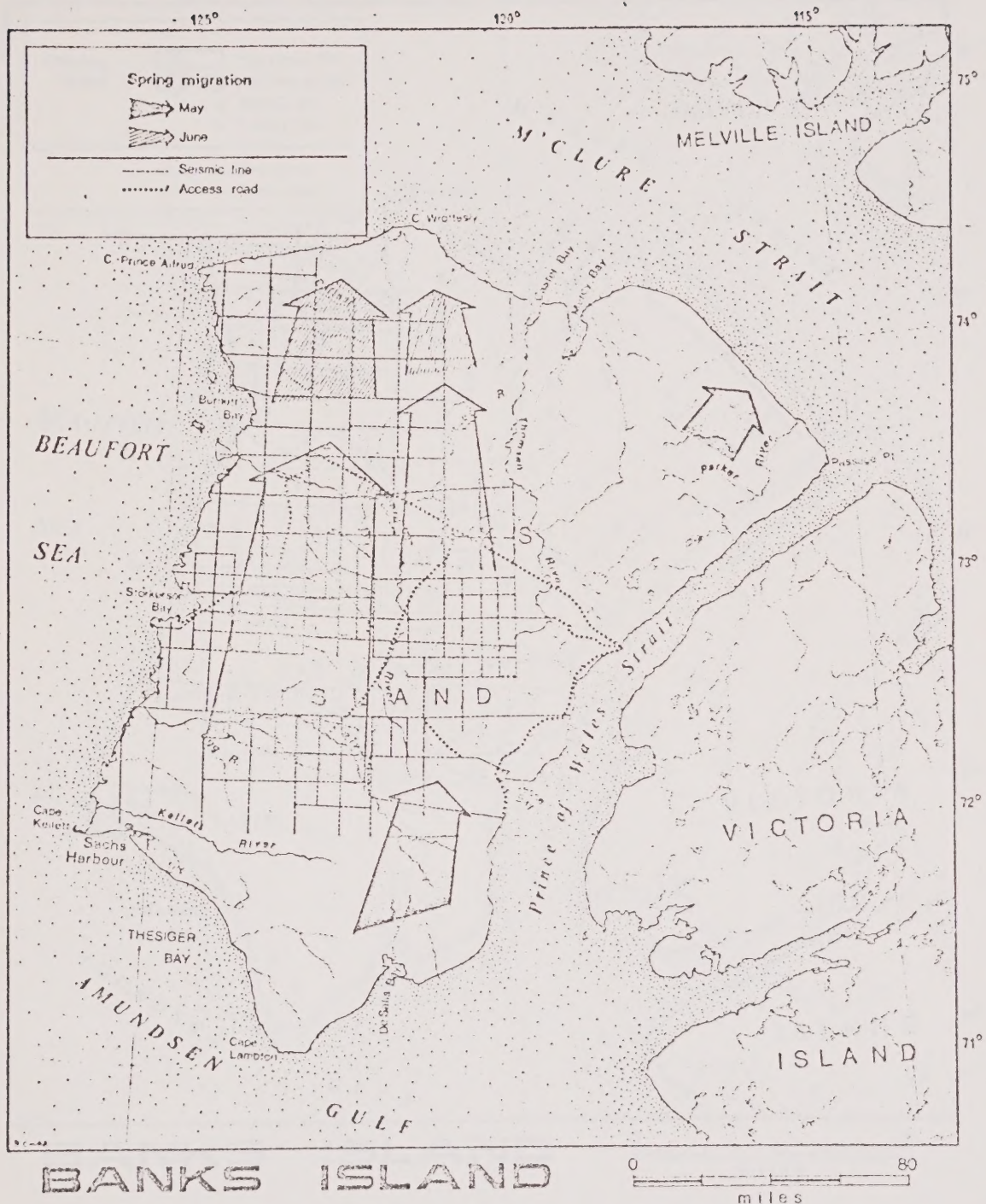


Figure 3 : Spring caribou movement patterns plotted against seismic lines on Banks Island.

(Adapted from Urquhart, 1972 and 1973.)

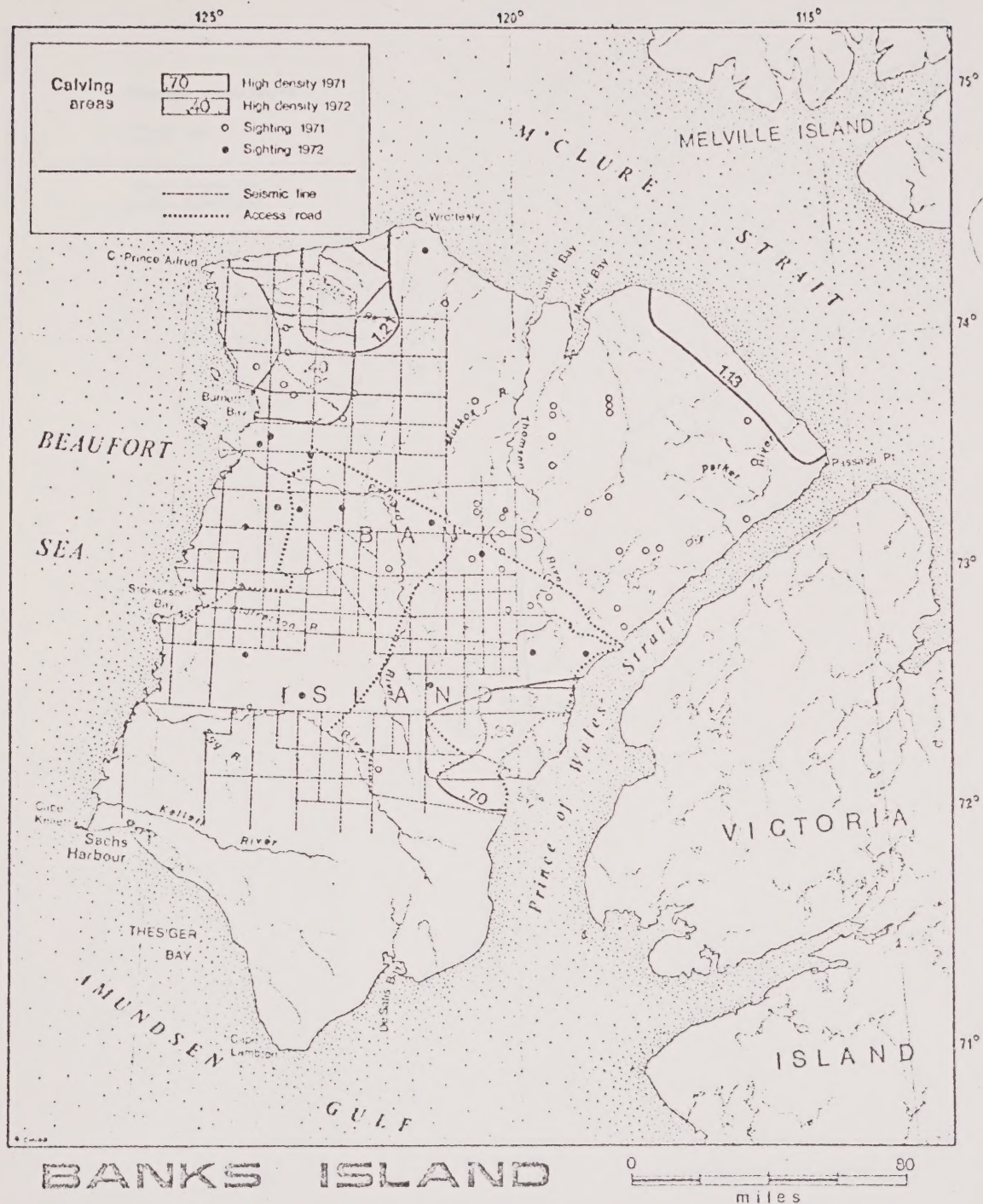


Figure 4 : Caribou calving areas in 1971 and 1972 plotted against seismic lines on Banks Island.

Areas in which a relatively high density of cows and calves were observed are delineated. Figures indicate the number of caribou seen per square mile in the areas of high density. (Adapted from Urquhart, 1972 and 1973.)

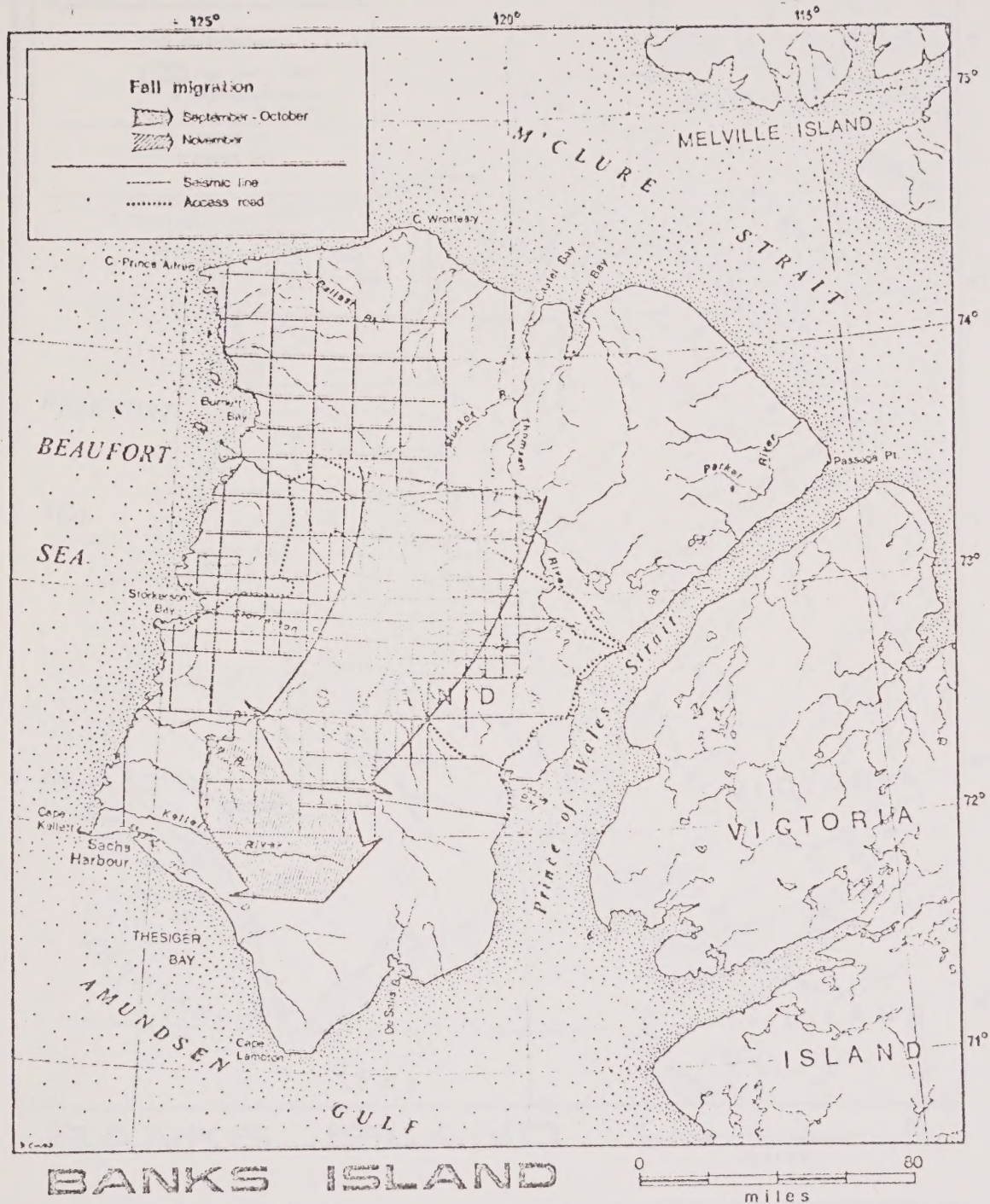


Figure 7 : Caribou movement patterns in the fall plotted against seismic lines on Banks Island.

(Adapted from Urquhart, 1972 and 1973.)

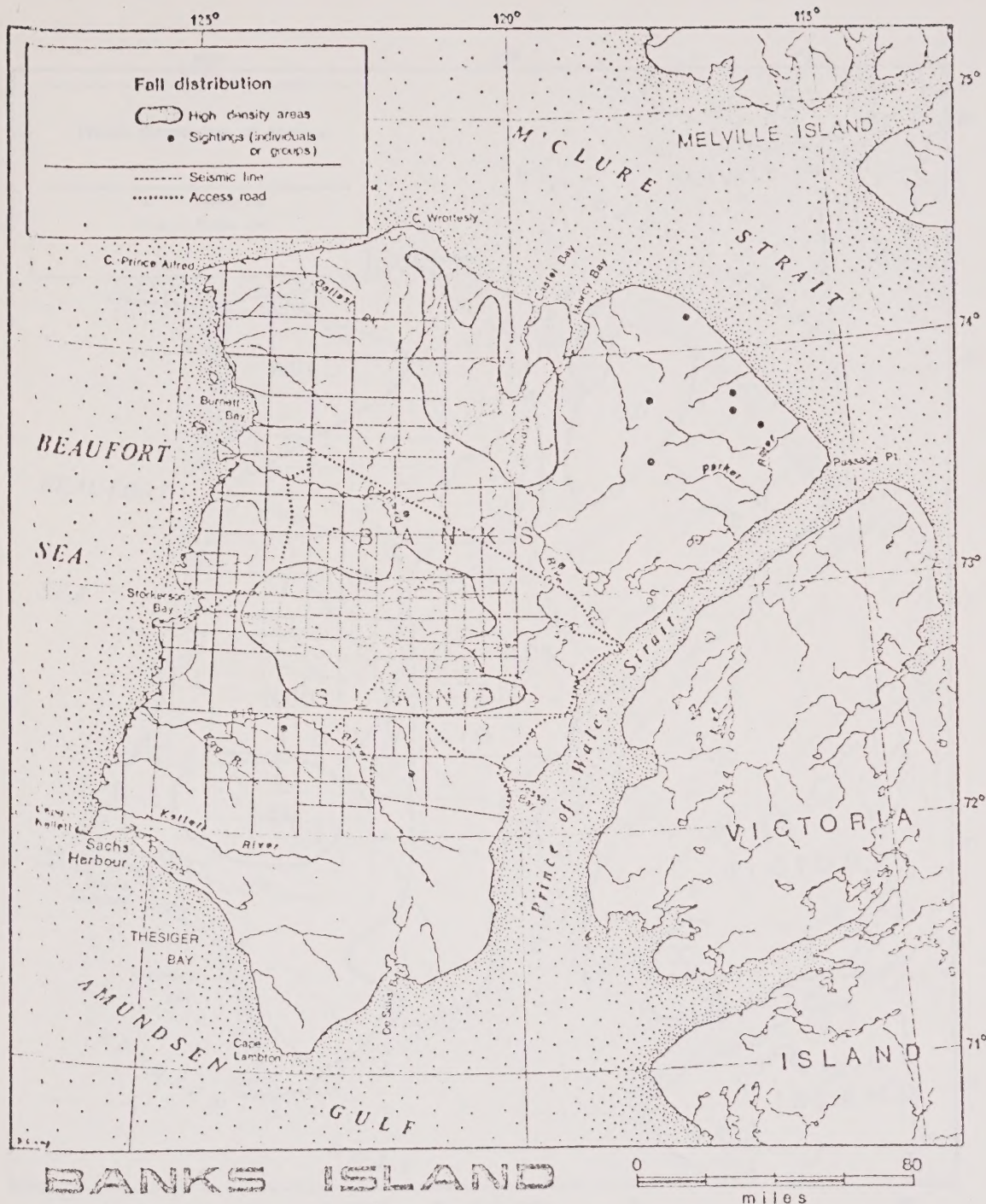


Figure 8 : Caribou distribution in the fall plotted against seismic lines on Banks Island.

Areas of high densities of caribou are shown. The figures represent the number of caribou seen per square mile in each delineated area.
(Adapted from Urquhart, 1973.)

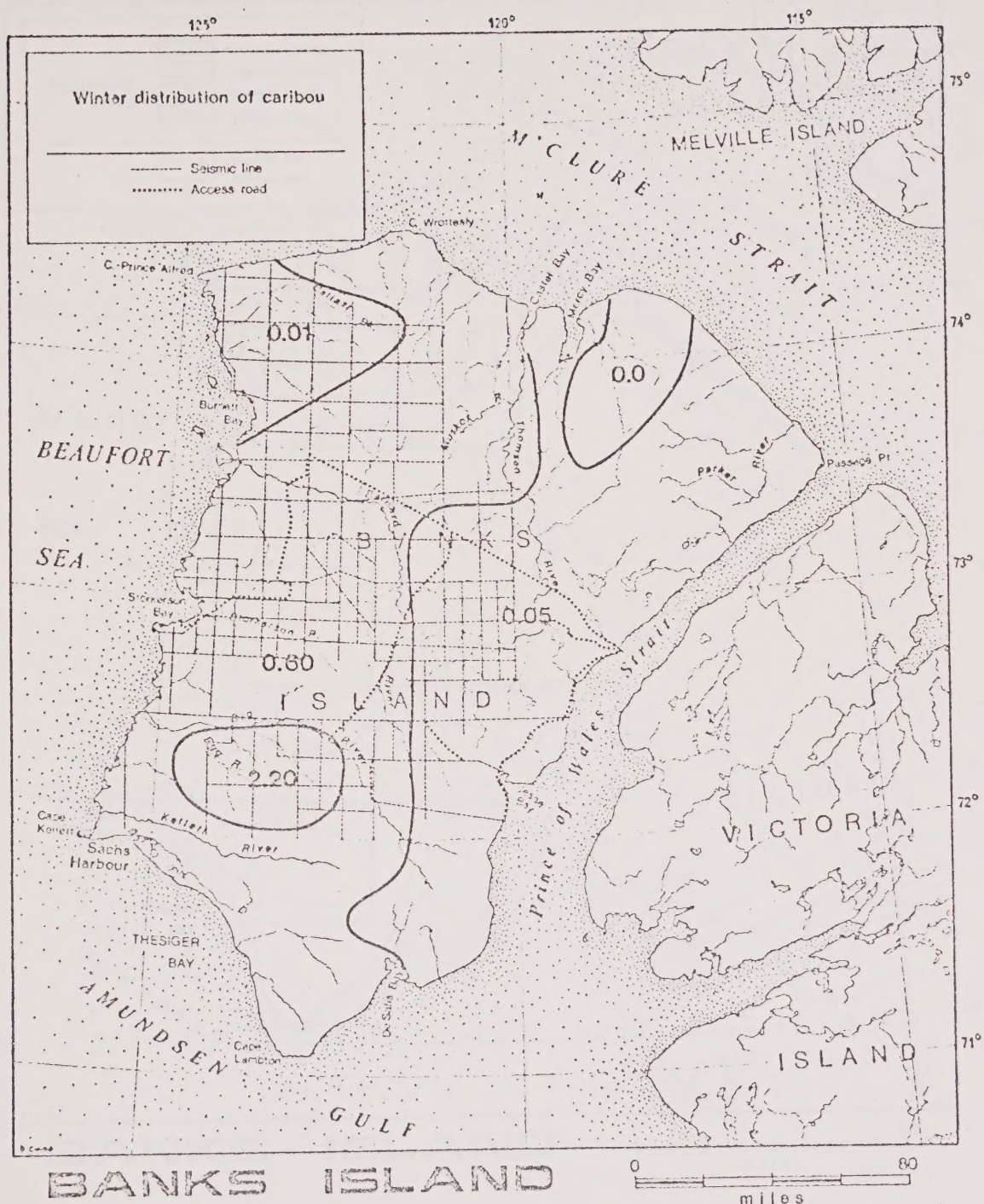


Figure 9 : Caribou distribution in the winter plotted against seismic lines on Banks Island.

Areas of varying density are outlined. Figures indicate the number of caribou seen per square mile in each area. (Adapted from Urquhart, 1972 and 1973.)

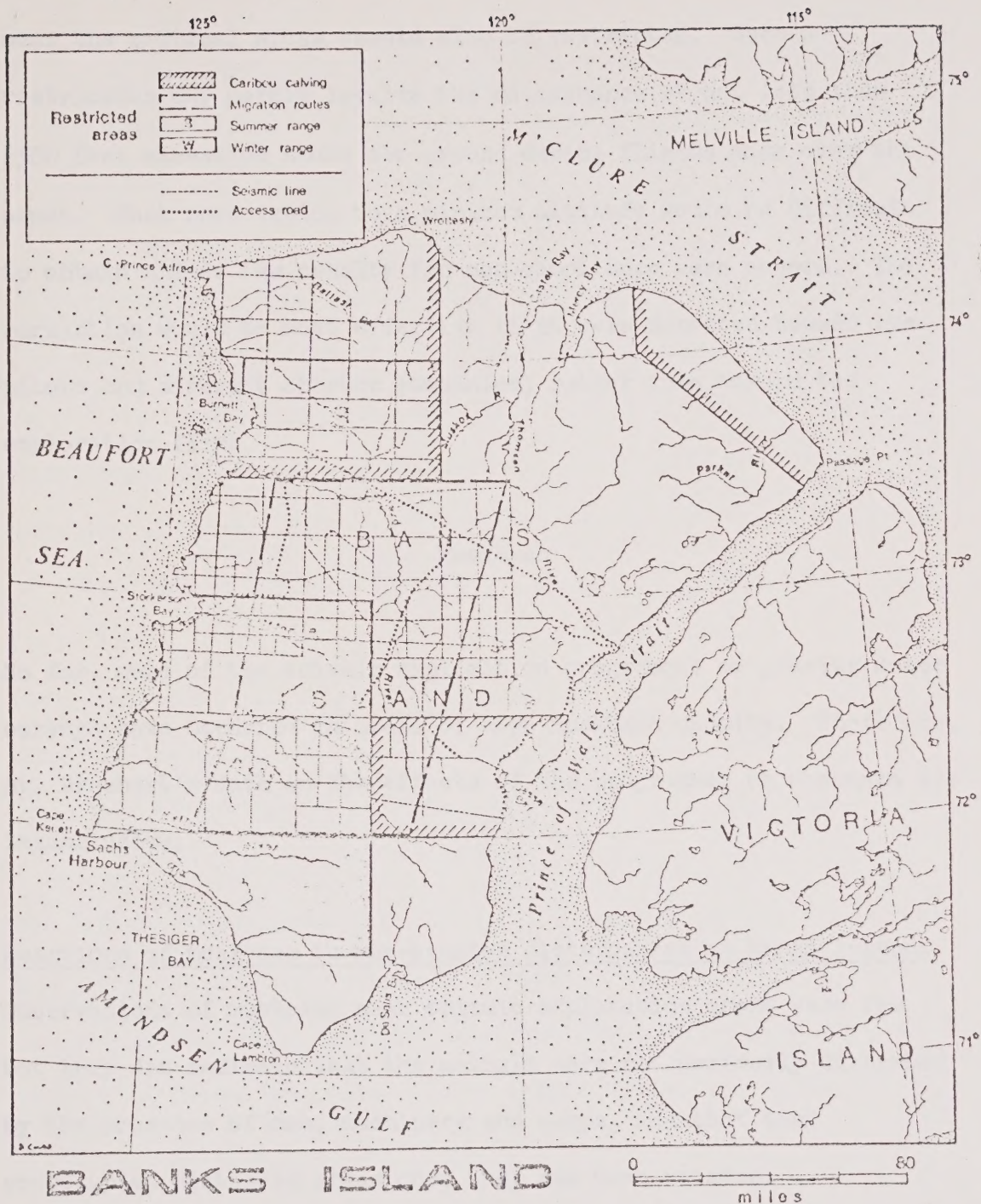


Figure 10 : Areas of critical caribou range within which human activities should be restricted plotted against seismic lines on Banks Island.

(Adapted from Urquhart, 1972 and 1973.)

over the critical areas should also be restricted. Such a restriction may merely involve the maintenance of not less than 1500 feet elevation above the ground during flights made over the areas. Such restriction to a minimum altitude would be difficult to obtain unless the penalty for non-compliance were severe. The regulation would be most effective if it were directed toward the pilots and aircraft charter companies, rather than toward the exploration firms.

Muskoxen

So far, none of the seismic exploration programmes or gravity meter surveys have occurred in areas of high muskoxen density. Therefore, Mr. Urquhart's data on the effects of the programmes on muskoxen are inconclusive.

Reactions of muskoxen to man-created disturbances on Banks Island.

Observations of muskoxen near seismic exploration crews were few but they did indicate that the animals were not seriously disturbed by the presence of men, machinery and camps, and that they re-occupied disturbed areas once they had been vacated.

Muskoxen did not appear to be seriously disturbed by helicopters operating a mile or more away. Their initial response to a helicopter approaching closer than that was to hold their ground and form a defensive circle. If the disturbance continued, the animals

would run away for a few hundred yards and then stand and watch before running again. Mr. Urquhart observed that calves in July were able to keep pace with the adults.

Recommendations. The results of Mr. Urquhart's study indicate a need for further precautionary restrictions on oil exploration activities on Banks Island. The formation of defensive circles by muskoxen in response to disturbance by men and machines is evidence of stress, and common sense would dictate the restriction of activities in muskoxen habitat during calving seasons (15 April to 15 June). Aircraft should avoid flying over muskoxen yearlong lower than 1500 feet above the ground. Those areas in which disturbances should be minimized during calving seasons, and over which low flying should be curtailed, are shown in Fig. 11.

The basic management studies now being conducted by the N.W.T. Game Management Division in the Thomsen River area should result in valuable information about the seasonal activities, abundance, and feeding habits of muskoxen. Those data will serve as a basis for future comparisons with disturbed muskoxen.

If oil exploration ground operations are to be conducted in the high muskoxen density areas along the Thomsen River, and in the northeast corner of the island, adequate warning should be given so that the federal and territorial governments can document the distribution of undisturbed muskoxen before the companies begin work

and so that one or more biologists can accompany the field parties to conduct detailed studies of the effects of those activities on the muskoxen.

Polar Bears

A quota system administered by the Territorial Government allows the people of Sachs Harbour to kill 18 polar bears each year. Some guided non-resident sport hunting of bears occurs in March, but such bears killed are included within the quota. The Eskimo guides receive payment from the sport hunters. Eskimos who kill polar bear themselves can easily sell the pelts at a considerable profit.

Research to date has not produced direct evidence that oil and gas exploration activities have detrimentally affected polar bears in the area of Banks Island. Dr. I. Stirling stated that although some Eskimos claim that the constant activity around Johnson Point has resulted in the cessation of movement of bears through Prince of Wales Strait, there is no evidence to support the statement.

Land-based seismic activity is likely to have little effect on polar bear movements and disturbance by marine seismic activity would probably be ephemeral. One possible exception is seismic activity in polar bear maternity denning areas. It is conceivable that the disturbance caused by blasting and machinery could stimulate female bears to desert their dens prematurely, resulting in cub mortality.

Since dens are not readily located until the females break out the exit in late March or early April, it is possible that some dens could be destroyed by machinery. Dr. Stirling recommends, therefore, that seismic activity in the areas of highest den density, especially on the slopes northeast of Nelson Head and around all islands off the west coast of Banks Island, should be prohibited during the denning season. Seismic activity within five miles of the north and west coasts of Banks Island should also be minimized during that time of year.

Seals

The Bankslanders kill seals mainly to stockpile their meat for winter dog food. As the use of motor toboggans has increased, the use of dog teams has decreased (Usher, 1970); so, consequently, has the extent of the seal harvest. Dr. Stirling estimated that 300 to 600 seals are being killed annually for hides and dog food. In years of low fox harvests, more seals may be shot for their hides.

The most important seal to the Banksland hunters is the ringed seal. The larger bearded seal is less frequently obtained (Usher, 1970, Vol. 2). Research on these species conducted by the Canadian Wildlife Service off the west coast of Banks Island has resulted in no firm evidence that marine seismic activity has had a detrimental effect on seals. In three instances, however, Eskimos

have expressed concern that marine seismic activities have resulted in the death of some seals. Unfortunately specimens were not obtained for internal examination in any of those cases.

Presently marine seismic activity during the open water period, when the animals are widely dispersed, could probably be regarded as harmless. If seismic work takes place while the sea is still frozen, activity near open leads should probably be avoided as these are the areas where seals and beluga whales concentrate. Gas charges instead of standard explosives would be preferable in all areas.

The activity which presents the greatest potential danger to seals and polar bears is offshore drilling. If an oil strike blow-out, it could cause great damage to the marine ecosystem, possibly wiping out the food species of the seals and, as a result, affecting the bears as well. Should such a blow-out occur under the sea ice, it could be extremely difficult to cap.

Effects of Oil and Gas Exploration
Activities on the Society
of Sachs Harbour

Changes to any society are often complex and sometimes too subtle to discern. However, it is obvious that the Bankslanders have been exposed to a variety of new situations over the past four years which are changing their life style and philosophy. Some of the most important innovations have been the establishment of a school (which

they requested) and government rental housing, the provision of electricity to homes, and the institution of such government services as water and fuel hauling. Usher (1971) described well the response of the Bankslanders to these developments. Of most relevance has been the increased attractiveness of settlement life and a decreased number of man days spent in the hinterland (see Usher, 1970, pp 14ff.). At the same time there has been an increased frequency of contacts between the Bankslanders and government officials.

Industry, government, and the Bankslanders. So far, the change in the life style of the Bankslanders has not been accelerated drastically by the advent of oil and gas exploration. The potential for accelerated change exists, however, if exportable quantities of petroleum are discovered and if the job market expands as a consequence. The significance of life style change has not been lost upon the Bankslanders. Whereas most parents would like their children to carry on their traditional ways, their children, who have been exposed to the relative ease of life in Inuvik and other population centres, are not enchanted by the harsh life of the trapper. To them, oil companies spell good wages, good food, and creature comforts for relatively easy work. The frustration and resentment to be encountered among the adult Bankslanders stems from the corporate strength and singleness of purpose of the petroleum industry, and the apparent lack of action by the government.

A deterioration in the Bankslanders's confidence in the government has been the result of increased contacts with government officials. Early in the course of such contacts, it became apparent to the Bankslanders that the assurances given them by the Minister of Indian and Northern Affairs and his employees could not always be accepted at face value. At times, in fact, the agency entrusted to look out for their affairs seemed instead to represent the petroleum industry. Although some members of the Department's field staff were accepted by the Bankslanders as dedicated men who were striving to guard their best interests, it soon became evident that such men were powerless to change what looked like a grand plan of resource exploitation dictacted from Yellowknife and Ottawa.

Examples of how the government caused the disillusionment of the Bankslanders can be documented from the government's own files. Notes and tape recordings of meetings between the Sachs Harbour residents and government officials have shown a standard script which the Eskimos have been asked to follow. The script has required that a meeting with the Bankslanders be called by the government, often on short notice, every time a new program of oil and gas exploration has been proposed, or a change to an existing programme has been needed. Invariably a representative of the government's Northern Economic Development Branch appeared at the meeting to present the industry proposal, with or without an industry representative

On 15 May, 1972, for example, a proposal was presented to the Bankslanders to drive eight Rolligons from Johnson Point to Sachs Harbour, even though the 15 April termination date for such operations was long past. It was explained that the vehicles were needed for summer seismic work on the mainland (northeast of Tuktoyaktuk) and that the owners wanted to barge the Rolligons from Sachs Harbour to Tuktoyaktuk.

Without advice from a trusted and technically qualified agency or individual the Bankslanders could not adequately evaluate the industry proposal. Nevertheless, they protested that the spring ice breakup was imminent and that the programme would be in violation of the Northern Land Use Regulations. The government representative replied that the company had already invested heavily in the project, and that men were already at Johnson Point ready to drive the Rolligons across the island. Because officials of the Northern Economic Development Branch commonly took such a stand, they could hardly be viewed as even-handed mediators in such a discussion.

The meeting of 15 May dragged on until a predictable compromise was reached. Had the natives been properly advised, the outcome might have been different. It is conceivable that the companies could have conducted their programme with no significant environmental damage, while the government could have maintained the trust of the Bankslanders.

There are other incidents, some of more significance, in which regulations have been violated with the apparent blessing of the government or in which assurances have been given to the natives and then ignored in later actions. Usher (1971) documented some examples and recommended corrective action. To date, however, there has been little change of the script for Bankslander - government - industry interactions. Other Sachs Harbour meetings of mid-April and 27 October, 1972, have followed the familiar pattern.

Recommendations. It is recommended that changes be made in the organization and modus operandi of Northern Economic Development Branch to ensure that the concerns of northern communities are given more weight than they are at present in comparison to the concerns of the industrial corporations whose plans are in conflict with the expectations of local people. It is recommended also that technical advisers, either private or governmental, be made available to communities to help them in preparing and in stating their case to land-use managers mediating such conflicts. It is further recommended that vigorous efforts be made to obtain the technical information, on impacts on wildlife and habitat, for example, needed so badly by the land-use managers.

Our first recommendation we consider the most important. The present dual role of guardian of the welfare of the Eskimo land and its resources on one hand, and chief proponent of rapid development of non-renewable resources on the other, can hardly be evenly and fairly played.

Discussion

The Bankslanders have enunciated a fundamental principle of resource development that government actions have failed to illustrate: if you don't know what you are doing, don't do it until you find out (letter from Dr. P. Usher to the Chief, Northern Science Research Group, 19 October, 1970). Before the exploration rush began, the government agencies had 10 years in which to find out what they were doing. However, as so often happens, they did not act to evaluate the potential influences of oil exploration activities on the people of Sachs Harbour, nor on the soils, flora, and fauna of the island, until pressured to do so by the Bankslanders during the summer of 1970. Even then, the government's responses were not well planned and coordinated.

Our preliminary data indicate that so far there has been little obvious direct disturbance to the fauna of Banks Island by oil and gas exploration activities. Perhaps the disturbances have been no more significant than those caused by the residents of Sachs Harbour themselves or by field biologists pursuing their normal studies. But what of the future? What will be the influence of the intensive activity that will undoubtedly follow the discovery of exportable quantities of oil or gas? What of pipeline construction, oil storage, transportation of oil to the mainland, harbour construction, the newly created job market, and other factors too numerous to list? Government agencies should not wait

again until the telegrams reach a Minister's office, and then react with expensive but relatively ineffective research. A well-coordinated, multi-discipline research programme now would allow the problems to be defined and ameliorative action taken before serious confrontation arose.

The companies searching the arctic islands for petroleum products are in a competitive business in which success is represented by profits. Unilateral action by a company to employ expensive environmental protection measures is not profitable and may hamper effective competition. The development of a policy of wise resource development by a company is therefore difficult unless the regulatory agency, in this case the Northern Economic Development Branch, encourages the formation of such a policy for all firms. Companies have demonstrated in the past that they have the technological skill and the willingness to conduct their operations, while minimizing environmental damage, if they are encouraged to do so by clear and evenly-applied government regulations.

The most difficult area to deal with is the impact of the oil and gas exploration programme on the society of Sachs Harbour. In our opinion, that society has been significantly affected by the Government of Canada itself. The most obvious symptom of change, a loss of faith in government officials, is a consequence of the present inability of the Department of Indian and Northern Affairs to successfully carry its two roles in a credible manner; that is, the champion of northern

development, and the guardian of the interests of the Eskimos and their environment. A reorganization might help resolve the conflict. However, even government reorganization will not prevent future clashes as long as a national policy of rapid development of northern resources continues to conflict with the aspirations of people who have other values.



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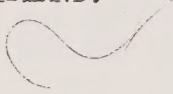
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APPENDICES

2

APPENDIX I:

TERMS OF REFERENCE FOR CANADIAN WILDLIFE SERVICE
INVOLVEMENT IN STUDIES TO DETERMINE THE EFFECTS OF
OIL AND GAS EXPLORATION ACTIVITIES ON THE SOILS,
FLORA, FAUNA, AND SOCIAL CONCERNS OF THE PEOPLE
OF BANKS ISLAND.



LAND OTT
NOV 9/70
DR T BARRY CDN WILDLIFE SERVICE
C/O INUVIK RESEARCH LAB
INUVIK

RW 4371 AS U KNOW THE CDN WILDLIFE SERVICE HAS UNDER ORDERS
FROM THE MINISTER BECOME INVOLVED IN THE BANKS ISLAND'S PROJECT

THEIR TERMS OF REFERENCE ARE AS FOLLOWS

TERMS OF REFERENCE FOR CANADIAN WILDLIFE SERVICE BIOLOGIST
ON BANKS ISLAND

1. TO REPORT REGULARLY TO THE MINISTER THROUGH THE DEPUTY
MINISTER ON THE SHORT AND LONG-RANGE IMPACT OR
SUSPECTED IMPACT OF OIL AND GAS EXPLORATION ACTIVITIES
ON BANKS ISLAND NWT ON
 - (A) THE ECOLOGY OF PLANTS AND ANIMALS
 - (B) THE HARVEST OF WILDLIFE RESOURCES BY ESKIMO
RESIDENTS
 - (C) THE SOCIAL CONCERNS OF THE ESKIMOS IN RELATION TO
THEIR TRADITIONAL HUNTING AND TRAPPING WAY OF LIFE
2. TO INITIATE AND CONDUCT SUCH RESEARCH AS MAY BE REQUIRED FOR
ASSESSING THE IMPACT OF ALL OIL AND GAS EXPLORATION ACTIVITIES
ON THE ITEMS LISTED IN (1) (A) AND (1) (B)
3. TO RECOMMEND TO THE MINISTER ANY ACTION DEEMED NECESSARY TO
PROTECT THE ECOLOGY AND THE WILDLIFE RESOURCES OF BANKS ISLAND
AND
4. TO WORK IN CONCERT WITH LOCAL REPRESENTATIVES OF THE NORTHERN
ECONOMIC DEVELOPMENT BRANCH AND THE GOVERNMENT OF THE NORTH-
WEST TERRITORIES IN ORDER THAT CORRECTIVE ACTION MAY BE TAKEN
PROMPTLY AS AND WHEN REQUIRED

DRS BARRY AND SIMMONS WILL BE ARRIVING INUVIK TODAY EN ROUTE TO
BANKS ISLAND BECAUSE OF SOME MISUNDERSTANDING EXPERIENCED THE
LAST TIME THESE PEOPLE WERE ON BANKS I CONTACTED DR BARRY LAST
FRIDAY AND HAVE ARRIVED AT THE FOLLOWING AGREEMENT IN ADDITION
TO TERMS OF REFERENCE

1. ALL ENFORCEMENT AND DIRECT DEALINGS WITH THE TWO EXPLORATION
COMPANIES WILL BE DIRECTED THROUGH THE CHIEF LAND USE INSPECTOR
(WILF TAYLOR)
2. BECAUSE OF THE IMPORTANCE OF AVOIDING ANY MISUNDERSTANDINGS
WITH THE LOCAL PEOPLE ON BANKS ISLAND ALL PROPOSED MEETINGS
AND DISCUSSIONS RELATIVE TO THE GEOPHYSICAL OPERATIONS AND THE
DEPARTMENT'S ROLE ON THE ISLAND SHOULD BE AGREED TO BY ALL
DEPARTMENTAL OFFICIALS PRIOR TO DISCUSSIONS WITH THE NATIVE
PEOPLE AND ALL DEPARTMENTAL PEOPLE SHOULD BE PRESENT AT
DISCUSSIONS IF AT ALL POSSIBLE

G B ARMSTRONG HEAD WATER AND LAND USE MANAGEMENT SECTION
NORTHERN ECON DEV BR

